

AGATCTACACAAGGCAAATTGAAAAATAGATAAAATTTTCGAGGTATTAAAGCCGACTTAAACAAATGAGTGAAGAA 80
 TCTAGATGTGTTCCGTTTAACTTTTTATCTATTTTAAAGCGTCATAATTCGGCTGAATTTTGTTTACTCACTTCTT

GAAAAGAAAAAATAAATACATATTTTGAGTTAGTAAAAGAGAAAGAAAAAATAAAGAAGACCTCGGCTTAACAGTCGA 160
 CTTTTCTTTTTTATTTATGTATAAACTCAATCATTTTCTCTTTCTTTTTATTTCTTCTGGAGCCGAATTGTCAGCT

AAAACCAGAAATAATAAAAAGAAAGAGACTGTGATTTTTAATGGAAATCGTGAGGAAAAGAAAATTTTAATTTTCATTTT 240
 TTTTGGTCTTTATTATTTTTCTTTCTCTGACACTAAAAATTACCTTTAGCACTCCTTTTCTTTTAAATTTAAAGTAAAA

CGAGGGATTAATTTGTTGTAAGTTGATGAAAAATCTAGATAAAAAATGCAGATCAAAAATGTGTTGAATTTGACATTATT 320
 GCTCCCTAATTAAACAACATTCAACTACTTTTTAGATCTATTTTTTACGTCTAGTTTTTACACAACCTAAACTGTAATAA

GAAATACGTAGTATATCAATAATGGGGGTTTGTCTATTTTATTTTGCGAAGATTGAAAATCTGAGTGAAAGAAAATAGTT 400
 CTTTATGCATCATATAGTTATTACCCCCAAACAGATAAAATAAAACGCTTCTAACTTTTAGACTCACTTTCTTTTATCAA

TCGAGAGCAAAAAAACCTTGCCGTTTTTTCAAATGACTTTGGAAAAAATTCATTGTGAGCGGTAGCGAAACTTTGAA 480
 ACGCTCTCGTTTTTTTGGGAACGGCAAAAAAAGTTTACTGAAACCTTTTTTAAGTAACACTCGCCATCGCTTTGAAACTT

ATTTTTTACATTGGAAATTTGAAAAAATAAGGCAAAAGAACTCAAATGGAAAAAATATTATTATAAAAAAAGGAGATCG 560
 TAAAAAATGTAACCTTTAACTTTTTTATTCCGTTTTCTTTGAGTTTACCTTTTTTATAATAATTTTTTTTCTCTAGC

Asn Phe Leu His Trp Lys Phe Glu Lys Ile Arg Gln Lys Lys Leu Lys Trp Lys Lys Tyr Tyr Tyr Lys Lys Arg Arg Ser

GATATGGATTTTAAAAGCAGAAAACTGACATTGAATGAAAAAAAAGATTTGAAAAAATCTATGCTGAGAGTGAATTTAA 640
 CTATACCTAAAAATTTTCGTCTTTTGACTGTAACCTTACTTTTTTTCTAAACCTTTTTTAGATACGACTCTCACTTAATTT

Asp Met Asp Phe Lys Ser Arg Lys Leu Thr Leu Asn Glu Lys Lys Asp Leu Glu Lys Ile Tyr Ala Glu Ser Glu Leu Lys

AGCAAAAAAATGGGAACTCAACCCGGTGTGTTTTAGAAATGACGATGAAAGAAATGATGAAAAATATCAACCTCGATG 720
 TCGTTTTTTTAAACCTTGAGTTGGGCCACAACAAAATCTTACTGCTACTTTCTTTACTACTTTTTATAGTTGGAGCTAC

Ala Lys Lys Leu Gly Thr Gln Pro Gly Val Val Leu Glu Met Thr Met Lys Glu Met Met Lys Asn Ile Asn Leu Asp

TTAATGAAGAAACAGCAGGTCAATATAGGAAATTATTCAAAAAATAAGTTGAGCATAGTAAATCAGATGATCTAGTAACG 800
 AATTACTTCTTTGTCGTCCAGTTATATCCTTTAATAAGTTTTTATTCAACTCGTATCATTTAGTCTACTAGATCATTGC

Val Asn Glu Glu Thr Ala Gly Gln Tyr Arg Lys Leu Phe Lys Asn Lys Val Glu His Ser Lys Ser Asp Asp Leu Val Thr

FIGURE 1A

GGACTATTAGAGTGTGGAAGCTCGAAATAGTTTTGATAAAACAAGAAGTGCCTTTCTGTTTTGTATTTGTGAGAGAATTCA 880
CCTGATAATCTCACACCTTGAGCTTTATCAAACTATTTTGTCTTCACGGAAAGCAAAAACATAAACTCTCTTAAGT
Gly Leu Leu Glu Cys Gly Thr Arg Asn Ser Phe Asp Lys Thr Arg Ser Ala Phe Arg Phe Cys Ile Cys Glu Arg Ile Gln
GCAACTGAGAAAAGAAGCTGATAATGCAAGAAGAGTAAAAGATTTGATACAATGAAAGCAAAAACATAAGAGGCTTTTG 960
CGTTGACTCTTTTCTTCGACTATTACGTTCTTCTCATTTTCTAAAGCTATGTTACTTTCTGTTTTGATTTCTCCGAAAAAC
Gln Leu Arg Lys Glu Ala Asp Asn Ala Arg Arg Val Lys Asp Phe Asp Thr Met Lys Ala Lys Thr Lys Glu Ala Phe
AATTGAGTTTTGTTTTGATAAGGATTTTTGAGTGAAAATAGAATTCAATGGAATGATATTTCTCACAACAAAAAAGAC 1040
TAACTCAAAACAAAACTATTCCTAAAAAACTCACTTTTATCTTAAGTTACCTTACTATAAAGAGTGTTGTTTTTCTG
Glu Leu Ser Phe Val Phe Asp Lys Asp Phe Leu Ser Glu Asn Arg Ile Gln Trp Asn Asp Ile Ser His Asn Lys Lys Asp
TCTGCAAGTAAAAGAAAAACAATGAAAGAAGCGGACACAATGGATGATATTTTTAAGAGGCTAAAAAATAATAAATCTAC 1120
AGACGTTTCAATTTCTTTTGTACTTTCTTCGCTGTGTTACCTACTATAAAAATTCTCCGATTTTTTATTATTAGATG
Ser Ala Ser Lys Arg Lys Thr Met Lys Glu Ala Asp Thr Met Asp Asp Ile Phe Lys Arg Leu Lys Asn Asn Lys Ser Thr
ATATGATCGTTATGCTGGATTCTTTCTATTTGTTTCGATTACAGGTTGCAGACCAGCAGAAGTTTTAAAGGGTATAGAGA 1200
TATACTAGCAATACGACCTAAGGAAAGATAAACAAGCTAATGTCCAACGTCTGGTCGTCTTCAAATTTCCCATATCTCT
Tyr Asp Arg Tyr Ala Gly Phe Leu Ser Ile Cys Ser Ile Thr Gly Cys Arg Pro Ala Glu Val Leu Lys Gly Ile Glu
TAGTAAGAAACAGATATGAGGATGGTATATCTTTTAAATACTTGGTGCAAAGGTTGGAAATGACAGAGGGCAAAGCGAA 1280
ATCATTCTTTGTCTATACTCTACCATATAGAAAATTTTATGAACCACGTTTCCAACCTTTACTGTCTCCCGTTTCGCTT
Ile Val Arg Asn Arg Tyr Glu Asp Gly Ile Ser Phe Lys Ile Leu Gly Ala Lys Val Gly Asn Asp Arg Gly Gln Ser Glu
AGAACATTACATTTTGATTTATCAAAATATCATGATAATGAGCAAATGAATTATATTTTGTGCAATTAAAAGATAATAA 1360
TCTTGTAATGTAAACTAAATAGTTTTATAGTACTATTACTCGTTTACTTAATATAAACAGCGTTAATTTTCTATTATT
Arg Thr Leu His Phe Asp Leu Ser Lys Tyr His Asp Asn Glu Gln Met Asn Tyr Ile Leu Ser Gln Leu Lys Asp Asn Lys
ATTTTTCTACAAACCAGATGGGAAGCTCTACAACAGCTTGAGGCAATACCTCTACATCCAACATAGAACGTTTTCTACTGT 1440
TAAAAAGATGTTTGGTCTACCCTTCGAGATGTTGTGCAACTCCGTTATGGAGATGTAGGTTGTATCTTGCAAAAGTGACA
Phe Phe Tyr Lys Pro Asp Gly Lys Leu Tyr Asn Ser Leu Arg Gln Tyr Leu Tyr Ile Gln His Arg Thr Phe Ser Leu
ATACACTTCGTCACAGGGTTGCGAGTGATCTCAAGGCATCCGGTGCAGATGACTTCACCATAGCGGCTNTTTTGGGTCAC 1520
TATGTGAAGCAGTGTCCTCAACGCTCACTAGAGTTCCGTAGGCCACGTCTACTGAAGTGGTATCGCCGANAAAACCCAGTG
Tyr Thr Leu Arg His Arg Val Ala Ser Asp Leu Lys Ala Ser Gly Ala Asp Asp Phe Thr Ile Ala Ala ??? Leu Gly His

FIGURE 1B

AGAGTGACTCAAAGCCAGGAGTTACTACGGCTATGCTCGTTCGTCGNAAGGTGGTATCGCTGTAAGTGGTGGTGGAGTGCT 1600
TCTCACTGAGTTTCGGTCCTCAATGATGCCGATACGAGCAAGCAGCCTTCCACCAAGCGACATTGACCACAACCTCACGA

Arg Val Thr Gln Ser Gln Glu Leu Leu Arg Leu Cys Ser Phe Val ??? Arg Trp Tyr Arg Cys Asn Trp Cys

CTGATGTTGTGAAAGCAAACAAGAGTCAGTTNGCTGTATCAAGGACTCCGAGCCAGATCT 1660
GACTACAACACTTTCGTTTGTCTCAGTCAANCGACATAGTTCCTGAGGCTCGGTCTAGA

FIGURE 1C

AGATCTCAACCAGTTTAAATCGCACTTCAAGAAGTAAAAATAGGGGCCGGCACC GGCTCTTTTTTTGGTGT TTTTGTAG 80
 TCTAGAGTTGGTCAAATTTTAGCGTGAAGTTCTTCATTTTATCCCCGGCCGTGGCCGAGAAAAAACCACAAAAACATC

TTAGTGGATATATCTGTTAGCTACAGAGAAAAGCGATTTTAGAGGGTTTGACGAGGTTTTTCGAGCTATCCAGGGTTTT 160
 AATCACCTATATAGACAATCGATGTCTCTTTTCGCTAAAATCTCCAAACTGCTCCAAAAAGCTCGATAGGTCCCAAAA

TGGGTTTTTGGGGTTGGATCAGAAAAGTCGTTCAAGATTATTGACATAAAGACAGGAAGGTTTATAACAAGTACCAGATA 240
 ACCCAAAAACCCCAACCTAGTCTTTTCAGCAAGTTCTAATAACTGTATTTCTGTCTTCCAAATATTGTTTCATGGTCTAT

CGACAAAACCAGCTTTGCAGGCTGGCTTTGAAGGACTAAAAGAAGTGGGGACTTCTTTGAGTCTTGTAATCAAGTTGGTC 320
 GCTGTTTTGGTCGAAACGTCCGACCGAAACTTCTGATTTTCTTCACCCCTGAAGAAACTCAGAACATTAGTTCAACCAG

AGAACTCGATTACGATTTGTAAGTAGAAATCTAACTCACATTTTCGAGAAAAGTCAAACCTTACCTCTTAGTTACAAC TCA 400
 TCTTGAGCTAATGCTAAACATTTCATCTTTAGATTGAGTGTAAGCGTCTTTCAGTTTGAATGGAGAATCAATGTTGAGTT

AAATTTCTTAGCCTTTTCAGATCCTTAAGCATACATATTTTGT TTAACCGATTGTGTCCGGTGT TTTGGTGTGGAGCCAT 480
 TTAAAGGATCGGAAAAGTCTAGGAATTCGTATGTATAAAACAAATTTGGCTAACACAGGCCACAAACCACACCTCGGTA

TGATCCGAGTGGTCAATATGTGATTGTTTCGCCAAACAGTGTATGTAGGTCTAAACGGGGAGTGCTACAAAAGACCATACC 560
 ACTAGGCTCACCAGTTATACACTAACAAGCGGTTTGTACATACATCCAGATTTGCCCTCACGATGTTTTCTGGTATGG

CGAAACGAGTGCCTAAGTGTTTTGGTTATCAACCAGGTAAGCTATGAGAAAAGCCAGCCATAAATGGGGTTAGGTTGAAG 640
 GCTTTGCTCACGGATTCACAAAACCAATAGTTGGTCCATTTCGATACTCTTTCGGGTCGGTATTTACCCCAATCCAAC TTC

CAAGTCTTCATATGGTGCGACACAAGGGGTGTAGTAGGGTGTCTGTCAAACTGAAAGGTTTGATAGCTCTAAGCTTGTGCT 720
 GTTCAGAAGTATACCACGCTGTGTTCCCCACATCATCCACAGCAGTTTGACTTTCAAACTATCGAGATTCTGAACACGA

TCTGTGGGTCAAGCCTCAAGTGCTGATCTGTGGTGTCTGTCTACCTGATAACTTTCACTTTTTCGAGTGAAATTCAGGAGG 800
 AGACACCCAGTTCGGAGTTCACGACTAGACACCACAGCAGATGGACTATTGAAAGTGAAAAAGCTCACTTTAAGTCCTCC

CGAAACTATGGGTCAAGCCCAGCTTTGCTGGGGTTCGGCACATCCAGCTTACAGCATTGGTGCTCTTGCGAAGCTGAAGC 880
 GCTTTGATACCCAGTTCGGGTCGAAACGACCCCAAGCCGTGTAGGTCGAATGTCGTAACCACGAGAACGCTTCGACTTCG

FIGURE 1D

ACAAAAATCTAATCCAGGGTTTGGGTTTTTATACCAGAAGCAAAACAAAAAATAAAACAAAGAAAAATTTTCGAGCGA 960
 TGTTTTAGATTAGGTCCCAAACCCAAAAATATGGTCTTCGTTTTGTTTTTATTTTGTTCCTTTTAAAAGCTCGCT

AAAAATATTTTGAATTTTTAAAGGCGATACTTGCTACCGCACTTTGCCATATTTAAACCTGACTATCTTTATAAGT 1040
 TTTTATAAAACCTTAAAAAATTTCCGCTATGAACGATGGCGTGAAAACGGTATAAATTTGGACTGATAGAAATATTCA

TAATAGATATATCCGTTAGATTATAAAGTATGTTAAAAACGAGTAAAAACAATAACTTATATATTTAATTCTGAATTATA 1120
 ATTATCTATATAGGCAATCTAATATTTTCATACAATTTTTGCTCATTTTTGTTATTGAATATATAAATTAAGACTTAATAT

TTTGACAGTGATTATTTAATATATTAAGAGATATATCTATTAGCTTAAATATAACTAAAAAAGAGGTAAATATATGGAT 1200
 AAACGTCACTAATAAATTATATAATTCTCTATATAGATAATCGAATTTATATTGATTTTTTCTCCATTTATATACCTA

TGTGATTTTAAAAAGCATTAGAAAATGAAATAGAACATTATAAAAAAGACGGTGATATCAAATCTTTCTTACAATACTT 1280
 ACACATAAATTTTTTCGTAATCTTTTACTTTATCTTGTAATATTTTTTCTGCCACTATAGTTTAGAAAGAATGTTATGAA

GCATTACTTTGATATAGATAAAGCATTAAATGGTGATGAATGTGGCGATATTATAAACTCAAATTTATCCATTGATGAAA 1360
 CGTAATGAAACTATATCTATTTTCGTAATTTACCACTACTTACACCGCTATAATATTTGAGTTTAAATAGGTAACCTACTT

GTTTTGATCTTCTTGATGTTGAGCACAATTTTCGGCTGGGCTTTCAATAAAATAATACAGAGACGAAATGAATATTTATCA 1440
 CAAAAC TAGAAGAACTACAACCTCGTGTTAAAGCCGACCCGAAAGTTATTTTATTATGTCTCTGCTTTACTTATAAATAGT

TCAGCTAAACCTGAAAATGATTTTAAAAAATACTCGTTCTTTATTCATTGATCAATTGGGAAGAATTTAATTACGATGA 1520
 AGTCGATTTTGACTTTTACTAAAATTTTTATGAGCAAGAAATAAGTAAGCTAGTTAACCTTCTTAAATTAATGCTACT

GATGAGTACAATACATCAAGAAATGATTAAAGGATTAGATAATTACACATATGGAGAAATAACCATATGAATAATAAAAT 1600
 CTACTCATGTTATGTAGTTCTTTACTAATTTCTAATCTATTAATGTGTATACCTCTTTATTGGTATACTTATTATTTTA

AAGAGAATATATTGATTTTCGAAATAACAAAAGATATAAAAGAAAGTCAGCTCTTAAAAATATCTGCATTGATCGATGTTT 1680
 TTCTCTTATATAACTAAAGCTTTATTGTTTTCTATATTTTCTTTCAGTCGAGAATTTTATAGACGTAACCTAGCTACAAA

TAAAAGTAGATGAAAAATTTATTGATGAAGAGGATTTGCAACTAAAGATATTGAAAATATCGTATGAAAATCCTATTGAT 1760
 ATTTTCATCTACTTTTTAAATAACTACTTCTCCTAAACGTTGATTTCTATAACTTTTATAGCATACTTTTAGGATAACTA

GATCCAGATGATGGCATAAGAAAATCACAATTCGCACGAAGAAATGCCTATGCTTTCCGCATTAAAAAACAAGCAAAAA 1840
 CTAGGTCTACTACCGTATTCTTTTAGTGTTAAGCGTGCTTTTACGGATACGAAAGGCGTAATTTTTTGTTCGTTTTT

FIGURE 1E

GAGATCT
→ 1847
CTCTAGA

FIGURE 1F

Growth of ps(-) vs ps(+) in ML5 at 28C, 32C & 36C

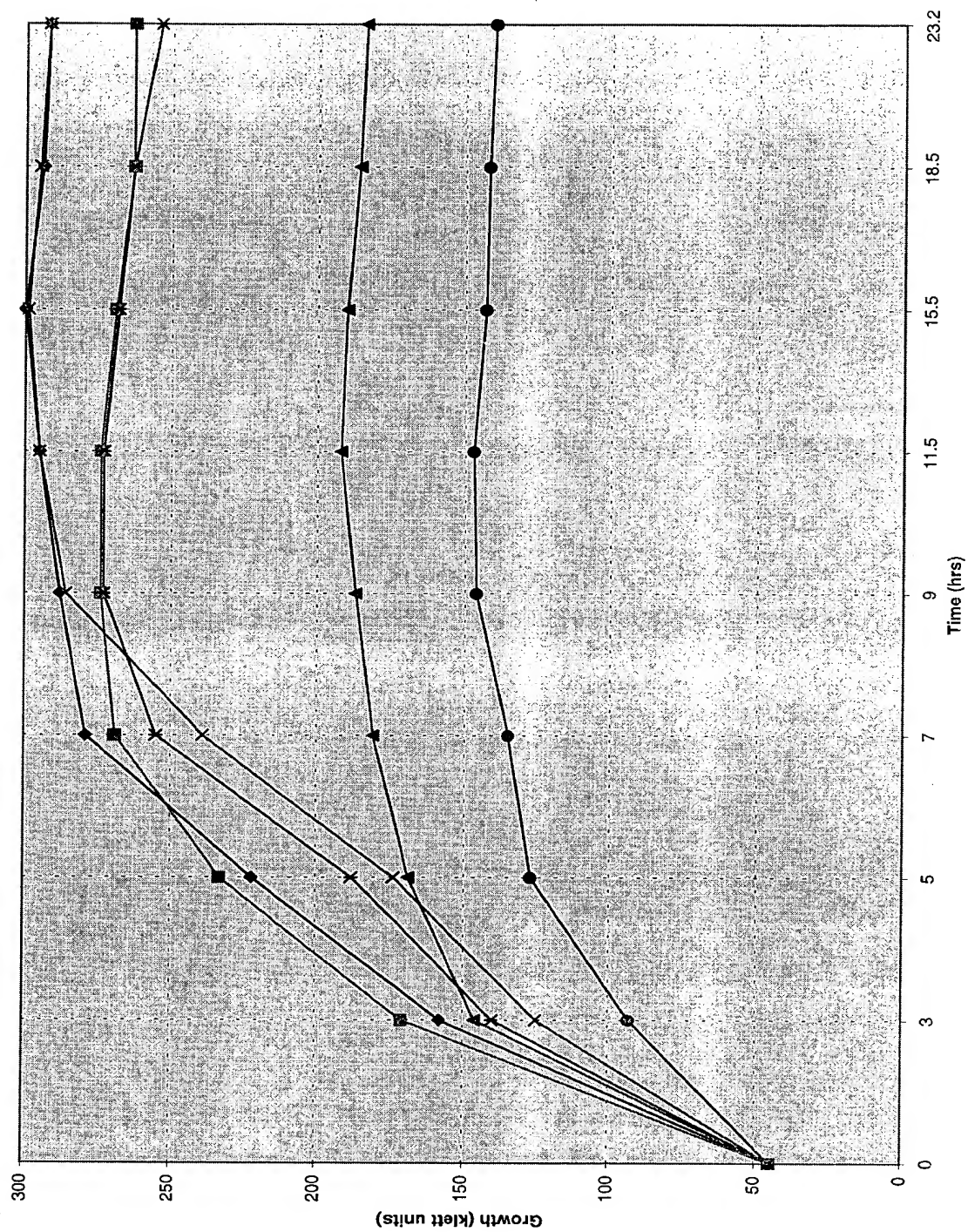


FIGURE 2

Growth of ps(-) vs ps(+) in LB at 28C,32C & 36C

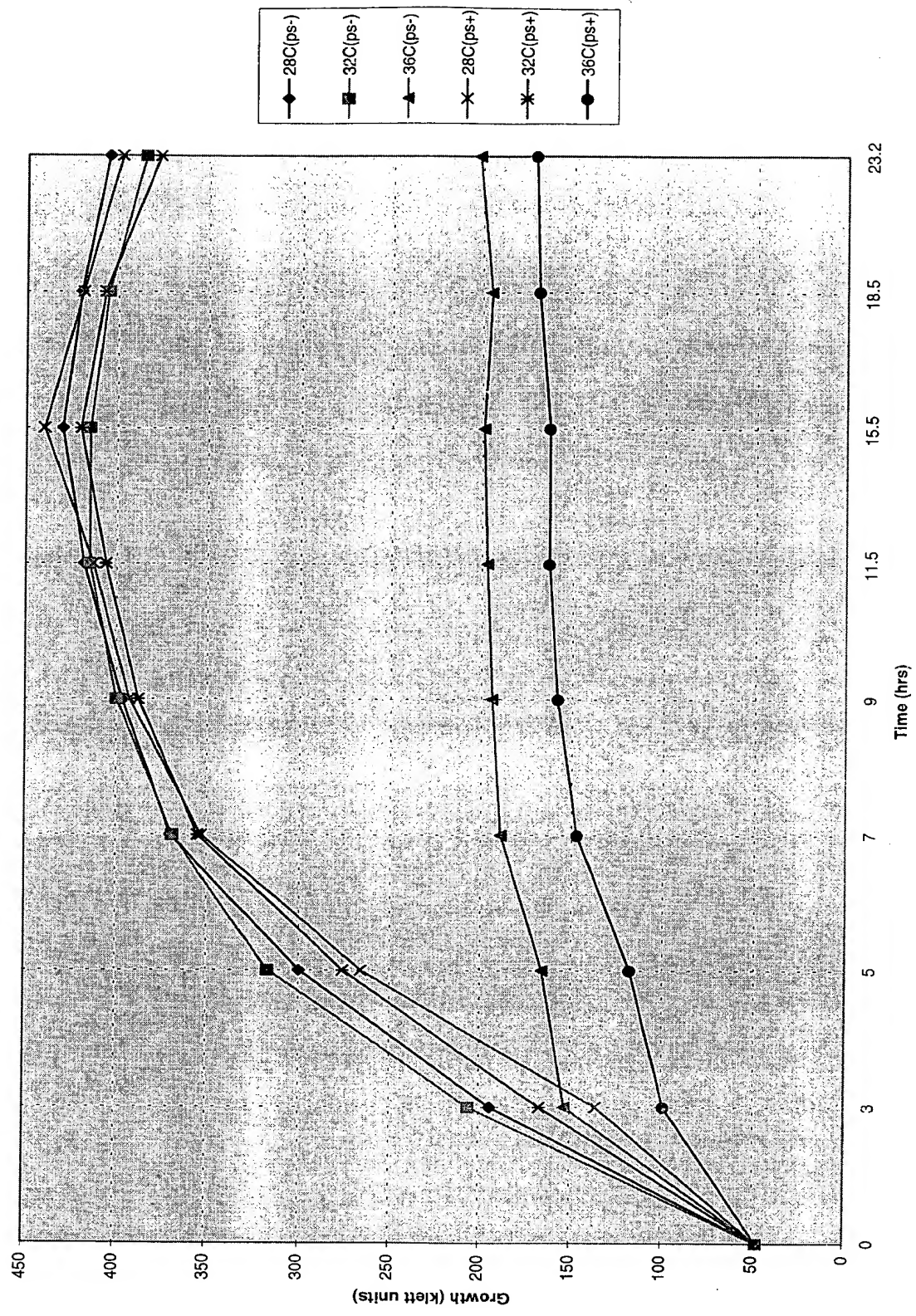


FIGURE 3